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### Abstract

A process for hydrogenating a benzenepolycarboxylic acid or a derivative thereof or  
10 a mixture of two or more thereof by bringing the benzenepolycarboxylic acid or the  
derivative thereof or the mixture of two or more thereof into contact with a  
hydrogen-containing gas is carried out in the presence of a catalyst which comprises  
as active metal at least one metal of transition group VIII of the Periodic Table alone  
or together with at least one metal of transition group I or VII of the periodic table  
15 applied to a support which contains macropores with the proviso that  
if dimethyl terephthalate is hydrogenated, the hydrogenation using a catalyst which  
comprises as active metal ruthenium either alone or together with at least one metal  
of transition group I, VII or VIII of the Periodic Table applied to a support, where  
the support has a mean pore diameter of at least 50 nm and a BET surface area of at  
20 most 30 m<sup>2</sup>/g and the amount of the active metal is from 0.01 to 30% by weight,  
based on the total weight of the catalyst, and the ratio of the surface areas of the  
active metal and the catalyst support is less than 0.05,  
and/or  
a catalyst which comprises as active metal ruthenium either alone or together with at  
25 least one metal of transition group I, VII or VIII of the Periodic Table in an amount  
of from 0.01 to 30% by weight, based on the total weight of the catalyst, applied to a  
support, where from 10 to 50% of the pore volume of the support is formed by  
macropores having a pore diameter in the range from 50 nm to 10,000 nm and from  
50 to 90% of the pore volume of the support is formed by mesopores having a pore  
30 diameter in the range from 2 to 50 nm, where the sum of the pore volumes adds up

to 100%, is excluded, and novel hydrogenation products, obtainable by hydrogenating benzenepolycarboxylic acid (derivatives) as well as their use as plasticizers in plastics.